A Multidimensional Pain Assessment Tool (MPAT) for Primary Care

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Abbreviated Abstract

Experts recognize that the proper assessment and treatment of non-cancer related, chronic pain must extend beyond the physical to include complex, multidimensional variables. Addressing pain-related patient expectations, quality of life, beliefs, prior experiences, and social variables improves outcomes. However, there is a significant gap between conceptual knowledge and clinical practice. Primary care providers, on the front line of pain management, are particularly in need of tools to efficiently improve care as they are increasingly asked to provide more care with limited (and fewer) resources. This application sought to help bridge the gap between conceptual understanding and delivered care in the primary care setting by creating a tool that combines multidimensional pain assessment with targeted management advice using multimedia technology. MPAT combines several well-validated instruments and synthesizes a multidimensional pain assessment along with management advice tailored to an individual's MPAT profile. The commercial goal is to offer MPAT at an affordable price to patients and clinicians who may have limited access to tertiary pain experts. To date, the product has been subjected to two rounds of usability testing with chronic pain patients and one with primary care providers. Currently, a randomized controlled trial is being conducted to evaluate the psychometrics of MPAT.

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Total Budget

$1,044,227

Research Objectives

AIMS

1) To create a computerized patient assessment tool that models a multidimensional, biopsychosocial pain evaluation done by a pain management expert.
2) To automate the generation of a multidimensional biopsychosocial pain assessment report (consult) for the provider that includes a patient-specific assessment and suggested evidence-based management strategy.
3) To address provider and patient acceptance through focus group based development needs assessments and user interface design.
4) To demonstrate that the tool is psychometrically valid, effective in improving pain management outcomes in the primary care setting, and is accepted as a useful resource by patients and providers.

Theory/Hypothesis

Successful management of chronic pain requires multidimensional assessment and treatment that addresses biological as well as psychological factors. Primary care providers (PCPs), who see and treat the majority of chronic pain patients but are increasingly pressed for time, have much use for an efficient and psychometrically sound computerized tool to conduct multidimensional pain assessments and provide targeted management advice.

1) MPAT will be efficient and easy for chronic pain patients to complete in their own homes or in primary care settings. Patients will feel heard and understood by their PCPs.
2) MPAT will improve care of chronic pain patients by saving providers' time yet gathering as much information as would be required in a lengthy interview.
3) MPAT will be psychometrically sound, demonstrating good reliability and validity.

Experimental Design

MPAT is currently being evaluated in a randomized controlled trial (RCT) with a between-within repeated-measures design. Data collection will be completed prior to the Showcase.

Final Sample Size & Study Demographics

Although we are no longer enrolling participants, follow-up data collection is ongoing. Total target N = 125.

Inclusion criteria: self-identify as having had non-cancer related low back pain for at least six months, have an average pain rating of 4 or above for the past week, access to the Internet, read and speak English

Exclusion criteria: participation in a multidisciplinary pain program or CBT for chronic pain within the past three years, under 18 years of age,

To date, 125 have completed baseline measures and been randomized: 63 have completed the pretest MPAT online, and 62 have completed a pretest telephone interview. Eighty-nine have completed the follow-up MPAT. Of the 125 participants who have completed baseline, 104 (83.2%) are female, 8 (6.4%) are Hispanic/Latino, 88 (70.4%) are White, 11 (8.8%) are African-American, 10 (8.0%) are Asian-American, 3 (2.4%) are Native American Indian/Alaska Natives, 1 (0.8%) is Hawaiian/Pacific Islander, and 5 (4%) indicate that they are some other race. Mean age is 41.3 ± 9.8 years. Seventy-nine (63.2%) reported that they are currently in treatment for chronic pain. Mean average pain rating (0-10) at baseline is 5.6 ± 1.6. Mean length of chronic pain is 8.4 ± 7.9 years.

Data Collection Methods

Usability testing using the Talk Aloud Protocol was conducted in with chronic pain patients (two rounds) and primary care providers (one round).

The RCT is ongoing. Data collection for the RCT is occurring primarily online, with the exception of data from telephone interviews. Chronic pain patients were recruited via craigslist.org and newspaper advertisements in selected markets across the US. Interested callers are screened by phone. At baseline, participants complete outcome (convergent validity) measures. They are then randomly assigned to complete either the MPAT online or a telephone interview consisting of the questions contained in MPAT. They are then randomly assigned to a 3-week online cognitive-behavioral chronic pain intervention (i.e., *immediate condition*) or to a 3-week waitlist control (i.e., *delay condition*). All participants then complete the MPAT online and again complete the convergent validity measures.

Outcome Measures

Survey of Pain Attitudes, Roland Disability Scale, Pain Catastrophizing Scale, Fear Avoidance Beliefs Questionnaire, Self-Efficacy Scale, and Negative Mood Regulation Scale, Satisfaction Questionnaire

Evaluation Methods

- Comparisons (e.g., correlations) of the MPAT online scores with responses on the outcome measures within time points will allow evaluation of convergent validity.
- The within-subjects comparison of baseline MPAT interview and follow-up MPAT online in the *delay condition* (i.e., with no intervention in the interim) will allow evaluation of mode of administration.
- The within-subjects comparison of baseline MPAT online and follow-up MPAT online in the delay condition will allow evaluation of test-retest reliability over a 3-week period.
- The within-subjects comparison of baseline MPAT online and follow-up MPAT online in the immediate condition (i.e., with an intervention in the interim) will allow evaluation of sensitivity to change.

Research Results

Not available at this time.

Barriers & Solutions

- Since this proposal was submitted and funded, two of the intended measures (SOPA and CPCI) are in negotiation for sale to a commercial assessment company and are no longer available for use at a reasonable cost. Thus, the product was revised to include evidence-based measures that are in the public domain.
- Interviews with PCPs indicated that providers liked the information that is garnered from a pain diagram, which was not included in the original suite of measures in MPAT. Furthermore, chronic pain patients, who

frequently experience pain of various qualities in multiple areas, wanted an opportunity to indicate this. Therefore, we created a Flash-based pain diagram that allows patients to indicate different kinds of pain wherever they experience it on their bodies.

- Barriers to implementing new procedures in primary care settings are widely known and well-documented in the literature. Thus, we are currently investigating whether the administration and interpretation of MPAT could be billable under existing CPT codes.
- We have encountered significant barriers in attempting to find primary care sites for an implementation study. We are currently working to get MPAT used in a group of primary care clinics in Eastern Washington and are planning an implementation study in late 2008/early 2009.
- In usability testing, providers indicated great interest in administering MPAT multiple times per patient to gauge change over time; however, MPAT includes a number of questions that need only be asked once (e.g., family history of substance abuse). Therefore, we are creating a streamlined version of MPAT, called Pain Checkup, for follow-up administrations. The full MPAT to be administered the first time is now called My Pain Profile.

Product(s) Developed from This Research

My Pain Profile, Pain Checkup